

Fig. 1A

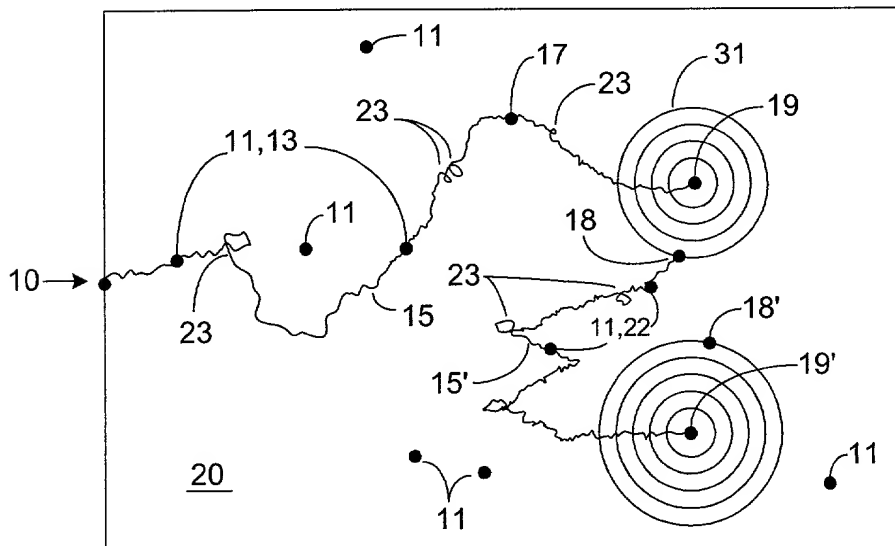
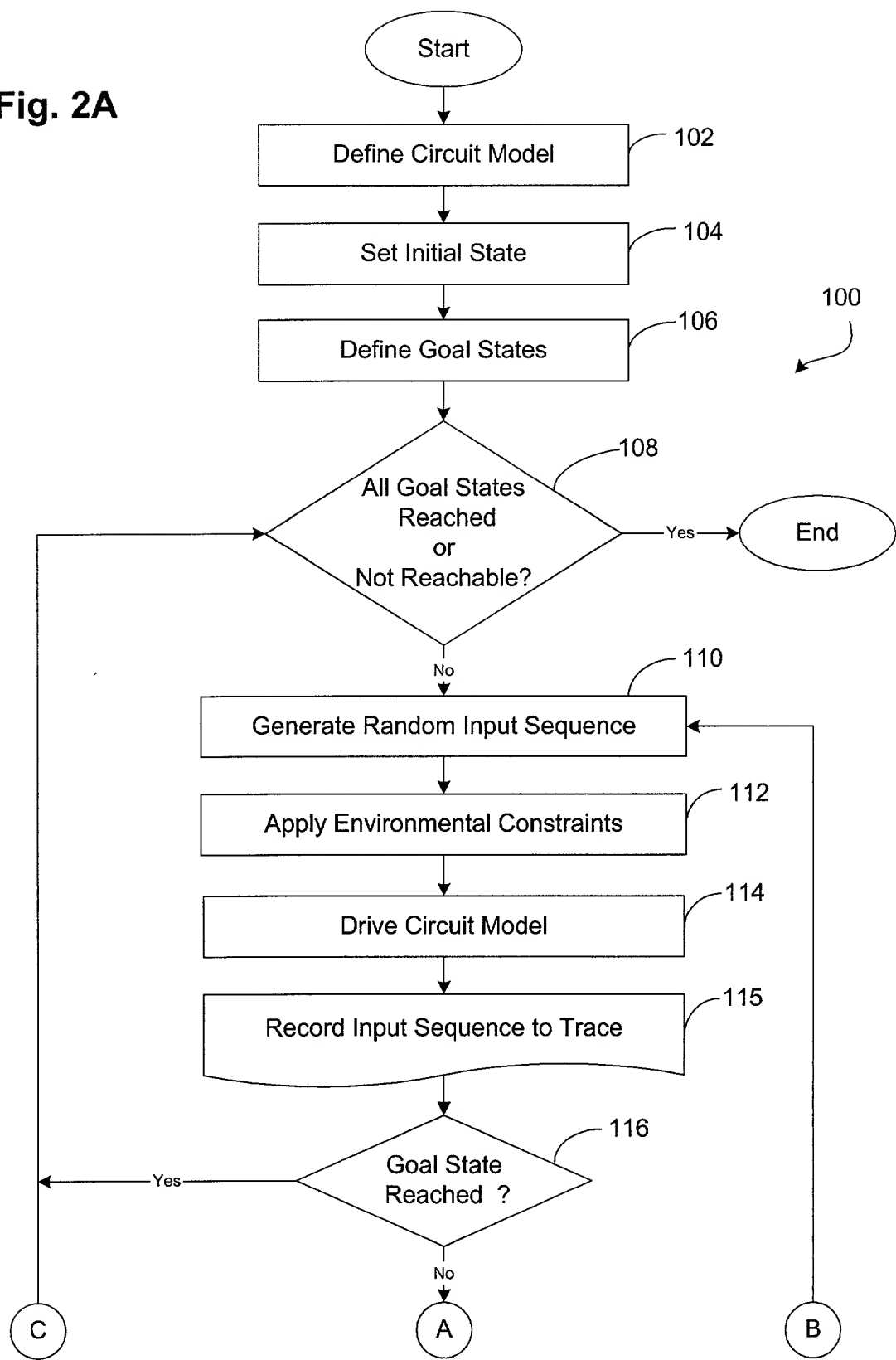


Fig. 1B

Fig. 2A



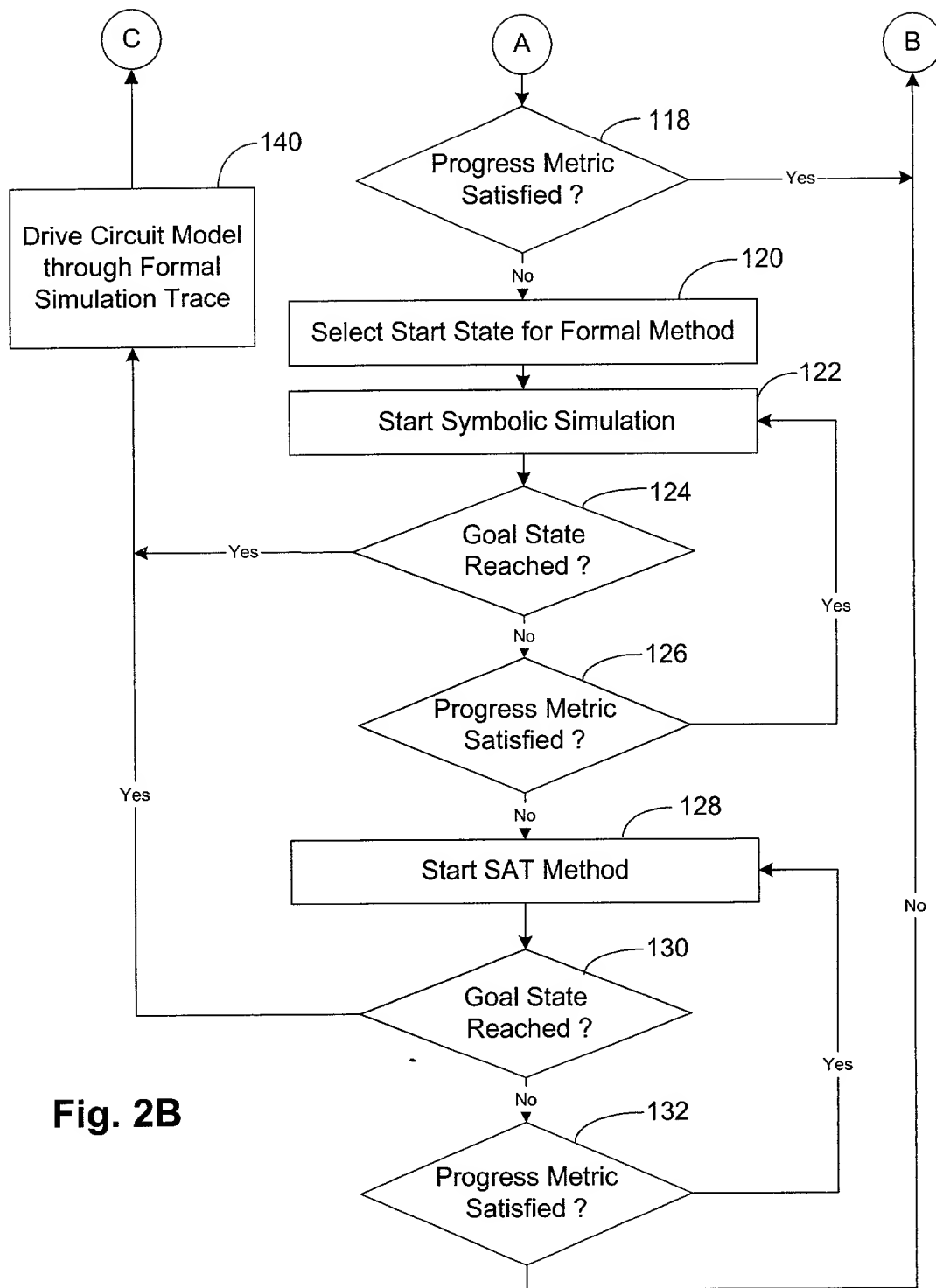


Fig. 2B

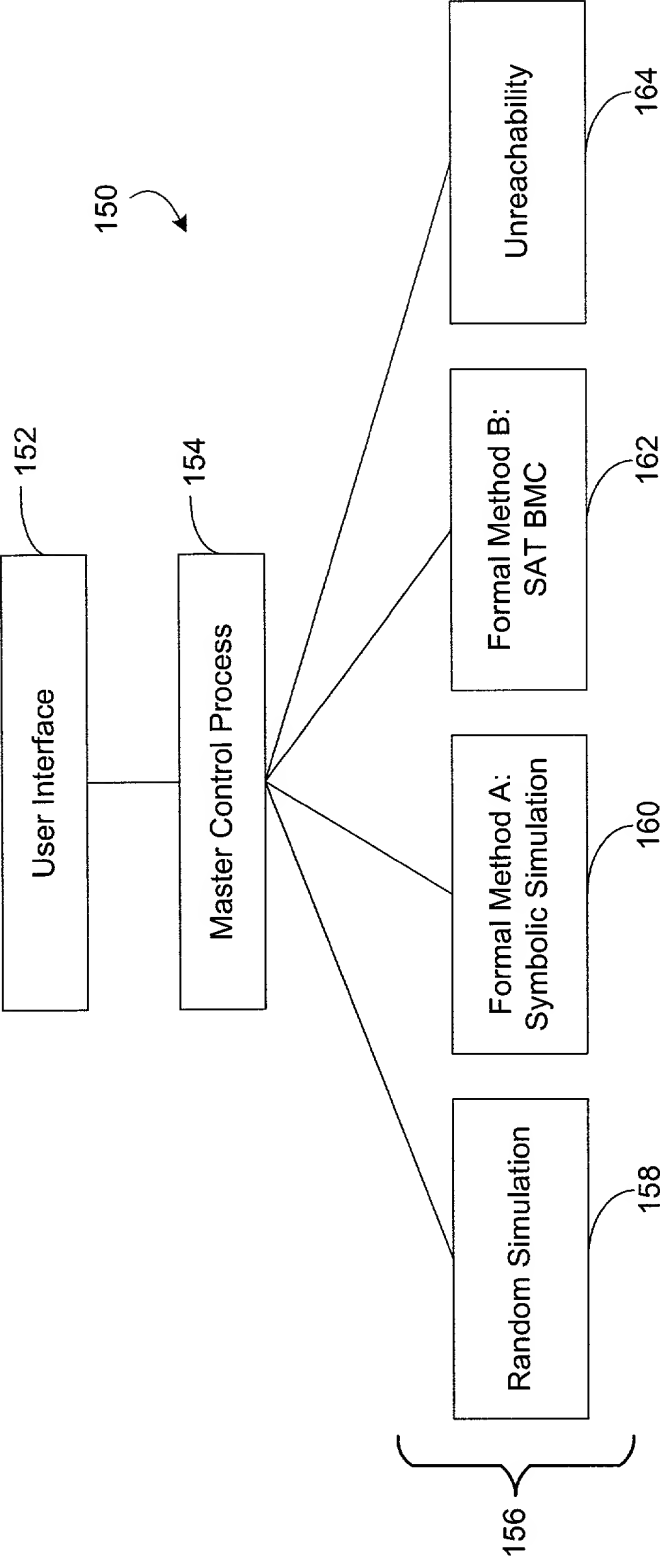


Fig. 3

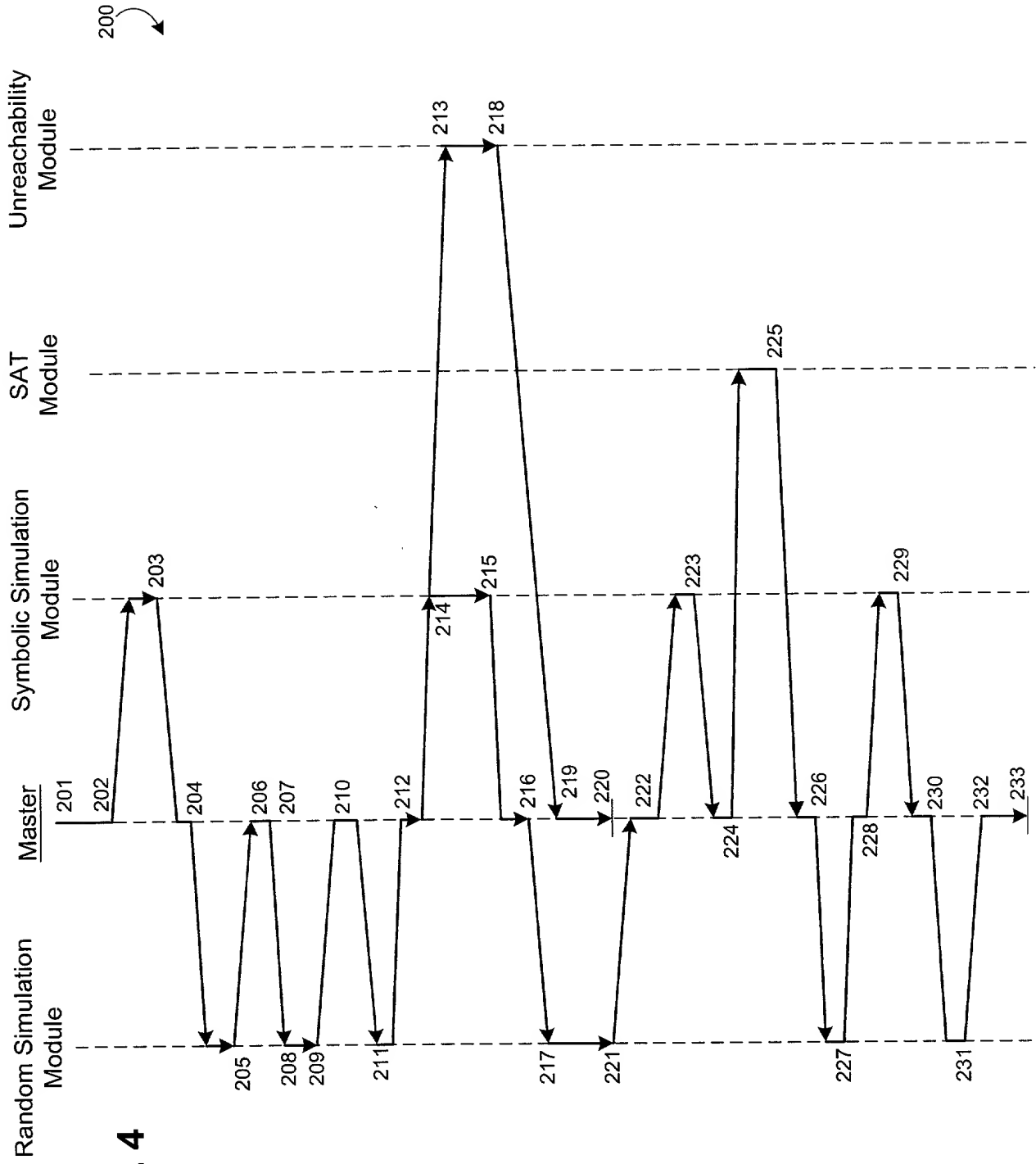


Fig. 4

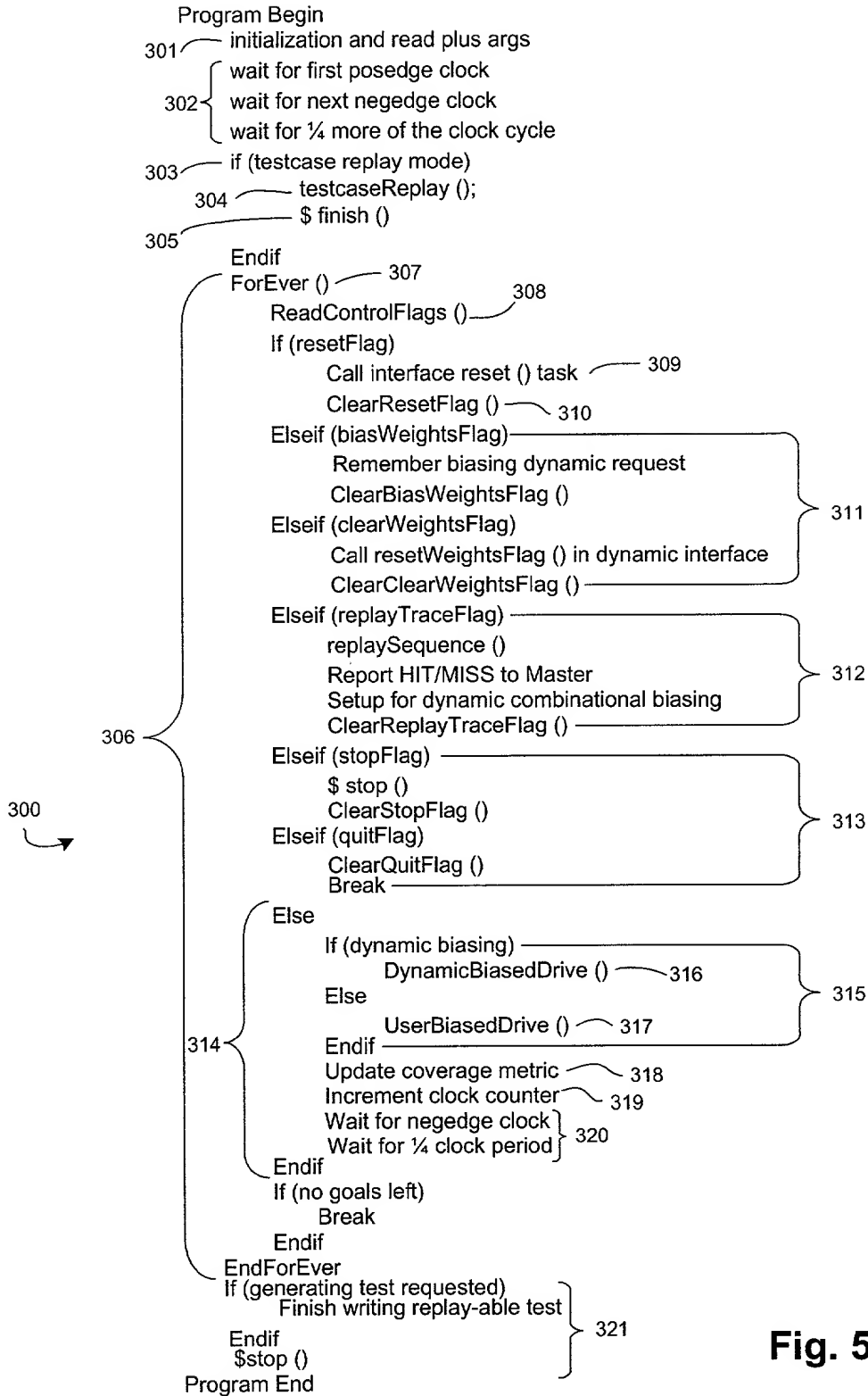


Fig. 5

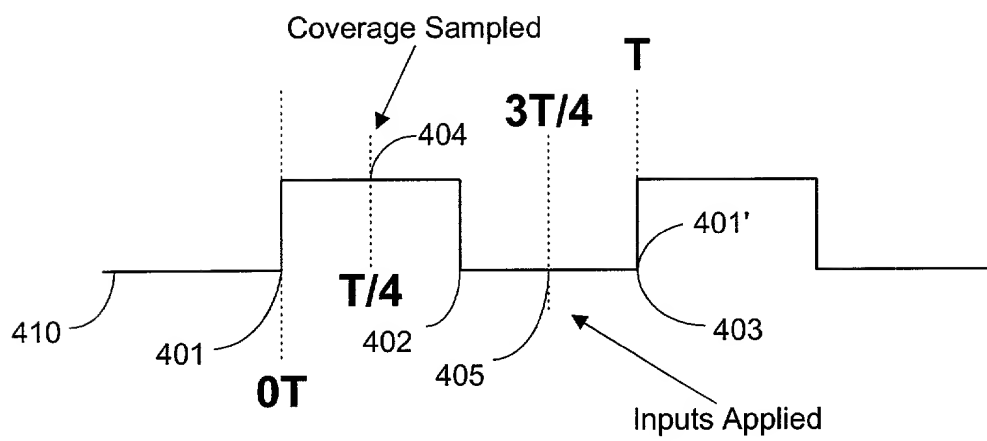


Fig. 6


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330 ——— If (phase is MODE_INIT_SYM)
      331 ——— If (search found 0 goals)
            {
            332 { If (satCycMax>0)
                    set phase to MODE_SAT
                  Else
                    Set phase to MODE_SYMSIM
            }
            333 { Endif
                    Set non-init-phase VCS stop conditions \
                      & freshness using $configStopPointHV
                    push hv_vcs_stopped on VCS cmd stack
                    set VCS engine state to "running"
                    tell VCS to run
            }
      335 ——— Else
            336 { Push hv_vcs_replay_done on VCS cmd stack
                    Tell VCS to bias weights
                    Tell VCS to replay a trace
            }
            338 { Set VCS engine state to "running"
                    Tell VCS to run (do the replay)
            }
            Endif
340 ——— Elseif (phase is MODE_INIT_SAT)
      341 ——— If (search found 0 goals)
            {
            342 { If (symsimCycMax>0)
                    set phase MODE_INIT_SYM
                  Else
                    set phase MODE_SAT
            }
            343 { Endif
                    If (phase is MODE_INIT_SYM)
                      Call hv_run_formal
                  Else
            344 { Set non-init-phase VCS stop conditions \
                      & freshness using $configStopPointHV
                    push hv_vcs_replay_stopped on VCS cmd stack
                    set VCS engine state to "running"
                    tell VCS to run
            }
            345 ——— Else
            346 { Push hv_vcs_replay_done on VCS cmd stack
                    Tell VCS to bias weights
                    Tell VCS to replay a trace
            }
            348 { Set VCS engine state to "running"
                    Tell VCS to run (do the replay)
            }
            Endif

```

Fig. 7A

```

350 ——— Elself (phase is MODE_SAT, MODE_SYMSIM_SAT, MODE_SYMSIM)
        If (search found 0 goals)
            {
            352 { If (phase is MODE_SAT)
                    If (symsimCycMax>0)
                        set phase MODE_SYMSIM_SAT
                    Endif
            }
            {
            353 { Elself (phase is MODE_SYMSIM_SAT)
                    If (lastFormalEng was SAT)
                        Set phase to MODE_SYMSIM
                    Endif
            }
            355 ——— If (#consecMisses > formalMissThresh)
                        Push hv_vcs_stopped on VCS stack
                        Set #consecMisses to 0
            356 ——— Tell VCS to reset
            357 ——— Elself (lastFormalEng was SYMSIM)
                        Push hv_vcs_replay_done on VCS stack
                        Tell VCS not to bias weights
            358 ——— Tell VCS to replay a trace
            359 ——— Else
                        Push hv_vcs_stopped on VCS stack
                        Endif
            Else
                If (#consecHits > formalClearThresh)
            360 ——— Tell VCS to clear bias weights
                Endif
                If (back2back enabled)
                    Push hv_vcs_replay_done_on VCS stack \
                        (with BACK2BACK action)
                Else
                    Push hv_vcs_replay_done_on VCS stack \
                        (with RUN action)
                Endif
                Tell VCS to bias weights
            364 ——— Tell VCS to replay
                Endif
            365 ——— Set VCS engine state to "running"
                        Tell VCS to run
                Endif

```

Fig. 7B